

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Appln. of: Ronald G. Parkinen, et al.

Art Unit: 2621

Serial No.: 09/560,722

Examiner: Huy Thanh Nguyen

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For: VIDEO RECORDING SYSTEM
UTILIZING EXTERNAL VIDEO STORAGE
TO RECORD STREAMING VIDEO VIA AN
ISOCHRONOUS INTERFACE

Docket No.: A0604

APPEAL BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir,

This appeal brief is submitted in response to the Final Office Action mailed by the Office on 02 January 2008 (hereinafter "the Final Office Action") and the Notification of Non-Compliant Appeal Brief mailed September 16, 2008, requiring the addition of a concise explanation of the claimed subject matter.

REAL PARTY IN INTEREST

The real parties in interest for the above-identified patent application are Keen Personal Media, Inc., and Keen Personal Technologies, Inc. See assignment REEL/FRAME: 010779/0463, recorded 04/28/2000, identifying Western Digital Corporation as the assignee of the entire right, title, and interest of the above-captioned patent application, and assignment REEL/FRAME: 011959/0170, recorded 06/29/2001,

from Western Digital Corporation identifying Keen Personal Media, Inc., and Keen Personal Technologies, Inc., as assignees of the entire right, title and interest of the above-captioned patent application.

RELATED APPEALS AND INTERFERENCES

There are no known appeals or interferences related to the instant appeal.

STATUS OF CLAIMS

Claims 22-39 are pending.

Claims 1-21 have been canceled.

Claims 22-39 stand rejected under 35 U.S.C. §103(a) and are hereby appealed.

STATUS OF AMENDMENTS

There are no pending amendments filed subsequent to final rejection.

SUMMARY OF CLAIMED SUBJECT MATTER

Independent Claim 22 recites features of a video recording system to record an external video data stream for a video program segment selected using an electronic program guide, while independent Claim 35 recites features of a method of enabling the recording of an external video data stream for a video program segment selected using an electronic program guide. Embodiments of various claims use a hard disk drive for video recording, with particular embodiments being described in detail as follows.

Video recording systems, such as personal video recorders, typically utilize hard disk drive technology to store and replay video images. Such hard disk drive technology has traditionally been used in computer-related applications. By coupling the large, yet finite, storage capability (e.g., 15 GB or more) and non-volatile memory of an internal hard disk drive, and video compression and decompression capabilities,

personal video recorders allow users to pause and resume live television or to observe instant-replay while continuing to record the same incoming video data stream. These capabilities are not provided by video cassette recorders that utilize magnetic tape storage, which is a sequential access medium (i.e., to jump from a particular stored video data stream to another, the tape must be advanced or rewound). See Specification of the present Application at 1.

Embodiments of the present invention as claimed in independent Claims 22 and 35 include a video recording system to record an external video data stream for a video program segment selected using an electronic program guide and a method of enabling the recording of an external video data stream for a video program segment selected using an electronic program guide. Figure 1 of the present Application schematically illustrates a video recording system 10 in accordance with an embodiment of the present invention. The video recording system 10 comprises a user interface 20 that receives user input 22, a video input interface 30 that receives an external video data stream 32 for a selected video program segment 34, an isochronous interface 40 connectable to an external rotating storage drive 42, and a video data management system 50. Preferably, the isochronous interface 40 is compatible with asynchronous communication, as well as with isochronous communication. The video data management system 50 uses an electronic program guide 52 to select the video program segment 34 in response to the user input 22, recognizes connection of the external rotating storage drive 42 to the video recording system 10 and subsequently identifies the external rotating storage drive 42 as available for video data storage. The video data management system 50 uses the external video data stream 32 for the video program segment 34 to provide streaming video data 54, and routes at least a portion of the streaming video data 54 to the external rotating storage drive 42 via the isochronous interface 40 in order to record the external video data stream 32 for the video program

segment 34. Output from the video recording system 10 is routed via a video output interface 60 to a display device 62, typically a television, which is viewed by a user. *See id.* at 3-4.

By receiving user input 22, the user interface 20 permits the user to indicate to the video recording system 10 which video program segments 34 are selected for recording from the external video data stream 32, as well as to control various other operation parameters of the video recording system 10, such as playback commands (e.g., pause, instant-replay, etc.). In one embodiment of the present invention, the user interface 20 comprises a remote control keypad device (not shown) which emits infrared radiation encoded to signal the selections of the user, and an infrared receiver coupled to the video recording system 10 to receive the encoded signals of the user input 22. By pressing various keys on the remote control keypad device, the user communicates which video program segments 34 are selected to the video recording system 10. Alternatively, or in addition, the user interface 20 can advantageously comprise a keypad wired directly to the video recording system 10, or can utilize another known communication technology to enable a user to provide the user input 22 to the video recording system 10. The user interface 20 is coupled to the video data management system 50 in order to communicate the user input 22 to the video data management system 50, which selects the video program segment 34 in response to the user input 22. Persons skilled in the art are able to select an appropriate remote control or keypad communication technology for the user interface 20 to receive the user input 22. *See id.* at 4.

In one embodiment of the present invention, the isochronous interface 40 is coupled to the video data management system 50 in order to receive the streaming video data 54 corresponding to the external video data stream 32 for the video program segment 34 to be recorded. In addition, the isochronous interface 40 communicates

various video data management commands from the video data management system 50 to the external rotating storage drive 42. In certain embodiments of the present invention, the isochronous interface 40 is compatible with the IEEE 1394 standard. See *id.* at 5.

The preferred embodiment of the present invention is connectable via the isochronous interface 40 to an external rotating storage drive 42 that is an external hard disk drive compatible with the IEEE 1394 standard. Alternatively, the external rotating storage drive 42 can be a writable digital video disk (DVD) drive, or another technology that provides writable non-volatile storage. See *id.* at 6.

In the embodiment illustrated in Figure 1, the video data management system 50 recognizes connection of an external rotating storage drive 42 to the video recording system 10 and subsequently identifies the external rotating storage drive 42 as available for video data storage. The isochronous interface 40 enables communication between the video data management system 50 and any external rotating storage drives 42 connected to the video recording system 10. Using information generated by the external rotating storage drives 42 and communicated via the isochronous interface 40, the video data management system 50 is able to recognize connection of and to identify as available the external rotating storage drives 42. In certain embodiments, the communication between the video data management system 50 and any external rotating storage drives 42 occurs upon connection of the external rotating storage drive 42 to the video recording system 10, thereby providing automatic recognition of the external rotating storage drive 42 in accordance with the IEEE 1394 standard. Persons skilled in the art are able to provide an appropriate configuration and communication scheme between the video data management system 50 and the external rotating storage drives 42 compatible with the present invention. See *id.* at 7.

In the embodiment illustrated in Figure 1, the video data management system 50 routes at least a portion of the streaming video data 54 to the external rotating storage drive 42 via the isochronous interface 40 in order to record the external video data stream 32 for the video program segment 34. In embodiments in which the video recording system 10 comprises an internal rotating storage drive, such as a hard disk drive, the video data management system 50 selectively routes portions of the streaming video data 54 among the internal rotating storage drive and the connected external rotating storage drives 42, depending on the storage availability of the various drives. *See id.* at 8.

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

A. In the Final Office Action, Claims 22, 26-27, 29-31, and 35 were rejected 35 U.S.C. §103(a) as being allegedly unpatentable over US 6,311,011 to Kuroda (hereinafter "Kuroda") in view of US 5,991,832 to Sato *et al.* (hereinafter "Sato") and US 6,430,363 to Sasaki *et al.* (hereinafter "Sasaki"), the rejections of which are hereby appealed.

B. In the Final Office Action, Claims 23-24, 32-33, and 36-37 were rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Kuroda in view of Sato and Sasaki and further in view of US 5,990,927 to Hendricks *et al.* (hereinafter "Hendricks"), the rejections of which are hereby appealed.

C. In the Final Office Action, Claim 28 was rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Kuroda in view of Sato and Sasaki and further in view of US 6,016,507 issued to Carroll *et al.* (hereinafter "Carroll"), the rejection of which is hereby appealed.

D. In the Final Office Action, Claim 25 was rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Kuroda in view of Sato and Sasaki and Hendricks and further in view of Carroll, the rejection of which is hereby appealed.

ARGUMENT

For purposes of the following argument, Claims 22-39 are grouped together and stand or fall together.

A. Summary of the Rejections

Claims 22-39 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Kuroda in view of Sato and Sasaki and, with respect to certain claims, further in view of Hendricks and/or Carroll. Independent Claim 22 claims a video recording system including a "a video data management system that ... routes the selected portion of the streaming video data to the external hard disk drive via the isochronous interface in order to record the external video data stream for the video program segment, wherein the user interface controls playback commands of the video data management system and the playback commands are usable while the external video data stream is being recorded." Independent Claim 35 claims a method of enabling the recording of an external video data stream including "routing at least a portion of the streaming video data to the external hard disk drive via the isochronous interface in order to record the external video data stream for the video program segment; and controlling playback commands in response to the user input, wherein the playback commands are usable while the external video data stream is being recorded."

Applicants respectfully submit that none of the references cited as a basis for rejection teaches the quoted combination of limitations from either independent claim, even if those references are taken in combinations with each another, meaning that the cited bases of rejection do not render the claims obvious under 35 U.S.C. §103(a). *See* M.P.E.P. §§ 2141.02(II), 2143.03 (citing *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (CCPA 1970), "All words in a claim must be considered in judging the patentability of that claim against the prior art."). Moreover, even if these limitations were taught, there would be no suggestion or motivation to combine or modify the references to produce the claimed combination of elements, meaning that the combination would rely on impermissible hindsight. *See* M.P.E.P. § 2143.01, *In re Kahn*, 441 F.3d 977, 986, 78 U.S.P.Q.2d 1329, 1335. This is particularly clear when the

references are considered in their entirety, including the portions that teach away from the claimed invention. *See* M.P.E.P. § 2141.02(VI), *W.L. Gore & Associates, Inc., v. Garlock, Inc.*, 721 F.2d 1540, 220 U.S.P.Q. 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). The reasons for this conclusion are presented in detail as follows.

B. The Kuroda-Sato-Sasaki combination does not teach routing "the selected portion of the streaming video data to the external hard disk drive via the isochronous interface in order to record the external video data stream for the video program segment" wherein "playback commands are usable while the external video data stream is being recorded"

Sato discloses an electronic programming guide (EPG) used along with an electronic recording/reproducing apparatus. The only recording/reproducing apparatus disclosed in Sato is a device using a sequential storage medium, and in particular, a video tape recorder (VTR), not an external hard disk drive. Because the storage medium is a conventional sequential medium, it does not permit playback commands to be usable while an external video stream is being recorded to the same medium. Thus, Sato also fails to teach that playback commands are usable while the external video data stream is being recorded. In fact, Sato provides no teaching at all with regard to the playback use of any device while that device is recording.

Neither does Kuroda teach this combination of limitations. In numerous places, Kuroda explicitly teaches the use of a hard disk drive (HDD) as a temporary internal video storage device 103 (see, e.g., Fig. 5; Fig. 8; col. 4, lines 26-28; col. 5, lines 12-15; col. 12, lines 28-36, lines 45-49). Kuroda clearly contemplates the random access medium as a video storage medium, but Kuroda expressly does not perform the step of "rout[ing] the selected portion of the streaming video data to the external hard disk drive via the isochronous interface," nor does any other electronic program guide that enables the use of playback commands (see, e.g., Sato). The reason is stated explicitly in Kuroda; the bus load for playback commands was understood to be excessive (see, e.g., col. 5, lines 50-52; col. 6, lines 30-40).

Sasaki does not remedy the deficiencies of the previous references. Sasaki merely discloses that a hard disk drive may be used for video recording. *See, e.g.,*

Sasaki, col. 1, line 50 – col. 2, line 7. But it does not disclose the use of playback commands while video is recorded on an external hard disk drive. This combination of elements is precisely what is lacking from Kuroda and Sasaki. Consequently, the Kuroda-Sato-Sasaki fails to teach or suggest each and every limitation of independent Claims 22 and 35 and their respective dependent claims. Nor do the additional references cited as a basis for rejection by the Examiner (specifically, Hendricks and Carroll) supply any additional teaching that would remedy this deficiency of the Kuroda-Sato-Sasaki combination, meaning that Claims 22 and 35 and their respective dependent claims are not rendered obvious by the cited references.

For at least this reason, the rejections of Claims 22-39 under 35 U.S.C. §103(a) should be vacated and withdrawn.

C. The proposed combination would render both Kuroda and Sato unsatisfactory for their respective purposes

If a proposed modification would render a prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. See M.P.E.P. § 2143.01(V), *In re Gordon*, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984). In this case, the modification proposed by the Examiner to produce the claimed combination would render both Kuroda and Sato unsuitable for their respective purposes.

Sato specifically teaches that the electronic programming guide should provide a uniform interface between live and recorded programs. In describing playback modes, Sato notes “As described above, according to the present embodiment, either a broadcasted program or a program recorded in advance can be selected in such a uniform manner that there is no need to distinguish one from another, raising the degree of usage convenience of the system.” Col. 5, lines 12-16. See also col. 6, lines 44-49. Thus, even though playback commands could in principle be used by the EPG during playback of a recorded program on a VTR, Sato teaches that the EPG should not distinguish between playback of recorded programs and broadcasted programs in order to raise the degree of usage convenience.

As in the case of Sato, the purpose of the video recording system of Kuroda was expressly stated to be that it "unifies interface [*sic*] of a plurality of storage devices by recording in the storage devices *via the built-in storage device* [emphasis added], so that the viewer of the video recorder is free to select starting time and a storage device to record contents" (see, e.g., col. 12, lines 47-51). Using an external hard drive for simultaneous video recording and playback commands would have been understood to be unworkable in this object, which is why neither Kuroda nor Sato show routing an external video stream to an *external* hard disk drive via an isochronous interface for recording while playback commands are usable. In the case of Sato, the external device does not enable playback commands while recording, and in the case of Kuroda, internal storage is used to avoid loading the bus with playback commands.

Because the proposed combination would render the devices of the modified references (Kuroda and Sato) unsuitable for their intended purposes, there can be no teaching or suggestion to combine them. Thus, the Examiner's rejection does not establish a *prima facie* case of obviousness over these references. For at least this additional reason, the rejections of Claims 22-39 under 35 U.S.C. §103(a) should be vacated and withdrawn.

CONCLUSION

For the foregoing reasons, Applicant hereby requests that the final rejection of claims 22-39 under 35 U.S.C. §103(a) be vacated and withdrawn.

Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 23-1209, and please credit any excess fees to such deposit account.

Respectfully submitted,

Date: September 26, 2008

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CLAIMS APPENDIX

A complete listing of the claims on appeal:

1. – 21. (Canceled)

22. (Previously Presented) A video recording system to record an external video data stream for a video program segment selected using an electronic program guide, the video recording system comprising:

a user interface that receives user input;

a video input interface that receives the external video data stream for the selected video program segment;

an isochronous interface connectable to an external hard disk drive; and

a video data management system that:

uses the electronic program guide to select the video program segment in response to the user input;

recognizes connection of the external hard disk drive to the video recording system and subsequently identifies the external hard disk drive as available for video data storage;

uses the external video data stream for the video program segment to provide streaming video data;

selects at least a portion of the streaming video data to be routed to the external hard disk drive based on user input, an electronic program guide, and information regarding the storage capacity of the external hard disk drive; and

routes the selected portion of the streaming video data to the external hard disk drive via the isochronous interface in order to record the external video data stream for the video program segment, wherein the user interface controls playback commands of the video data management system and the playback commands are usable while the external video data stream is being recorded.

23. (Previously Presented) The video recording system of Claim 22, further comprising a set-top box that receives the external video data stream from a multiple-service operator.

24. (Previously Presented) The video recording system of Claim 22, wherein the set-top box comprises an internal hard disk drive.

25. (Previously Presented) The video recording system of Claim 24, wherein the internal hard disk drive is comprises an IDE interface.

26. (Previously Presented) The video recording system of Claim 22 further comprising a personal video recorder that receives the external video data stream.

27. (Previously Presented) The video recording system of Claim 26, wherein the personal video recorder comprises an internal hard disk drive.

28. (Previously Presented) The video recording system of Claim 27, wherein the internal hard disk drive comprises an IDE interface.

29. (Previously Presented) The video recording system of Claim 22, wherein the video data management system automatically recognizes connection of the external hard disk drive to the video recording system.

30. (Previously Presented) The video recording system of Claim 22, wherein the isochronous interface is compatible with the IEEE 1394 standard.

31. (Previously Presented) The video recording system of Claim 22, wherein the external video data stream and streaming video data include video data and audio data.

32. (Previously Presented) The video recording system of Claim 22, wherein the video data management system further comprises a video data encoder that encodes at least a portion of the streaming video data.

33. (Previously Presented) The video recording system of Claim 22, wherein the video data management system further comprises a video data encrypter that encrypts at least a portion of the streaming video data.

34. (Previously Presented) The personal video recorder of Claim 22, wherein the video data management system comprises an internal hard disk drive and routes at least a portion of the streaming video data to the internal hard disk drive.

35. (Previously Presented) A method of enabling the recording of an external video data stream for a video program segment selected using an electronic program guide, the method comprising:

- receiving user input by a video recording system that comprises an isochronous interface connectable to an external hard disk drive;

- receiving the external video data stream for the selected video program segment by the video recording system;

- using the electronic program guide to select the video program segment in response to the user input;

- recognizing connection of the external hard disk drive and subsequently identifying the external hard disk drive as available for video data storage;

- using the external video data stream for the video program segment to provide streaming video data;

- routing at least a portion of the streaming video data to the external hard disk drive via the isochronous interface in order to record the external video data stream for the video program segment; and

- controlling playback commands in response to the user input, wherein the playback commands are usable while the external video data stream is being recorded.

36. (Previously Presented) The method of Claim 35, wherein the method further comprises encoding at least a portion of the streaming video data.

37. (Previously Presented) The method of Claim 35, wherein the method further comprises encrypting at least a portion of the streaming video data.

38. (Previously Presented) The method of Claim 35, wherein the method further comprises routing the portion of the streaming video data to either an internal hard disk drive or the external hard disk drive.

39. (Previously Presented) The method of Claim 38, wherein the method further comprises routing the portion of the streaming video data to the external hard disk drive when the storage capacity of the internal hard disk drive is insufficient to accommodate the anticipated size of the portion of the streaming video data to be recorded.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.